

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 07 AUG 2000

WIPO

PCT

09601384
2643

| | | |
|--|--|---|
| Applicant's or agent's file reference COLB-002/00W | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/US99/01789 | International filing date (day/month/year) 27 JANUARY 1999 | Priority date (day/month/year) 27 JANUARY 1998 |
| International Patent Classification (IPC) or national classification and IPC IPC(7): H04N 7/14, G09G 3/36 and US Cl.: 348/14, 345/104 | | |
| Applicant COLLABORATION PROPERTIES, INC. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

RECEIVED

DEC 11 2000

Technology Center 2600

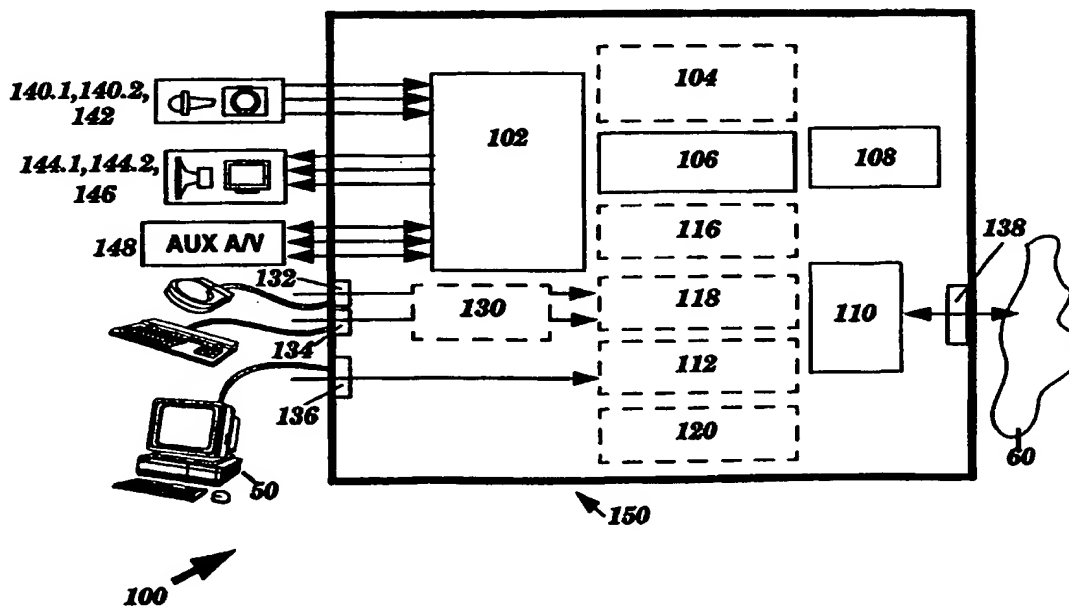
| | |
|--|--|
| Date of submission of the demand 27 AUGUST 1999 | Date of completion of this report 07 JUNE 2000 |
| Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230 | Authorized officer CURTIS KUNTZ Telephone No. (703) 305-4708 <i>Rugenia Logan</i> |



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| | | | |
|---|--|--|---|
| (51) International Patent Classification ⁶ : H04N 7/14, G09G 3/36 | | A1 | (11) International Publication Number: WO 99/38324 |
| | | | (43) International Publication Date: 29 July 1999 (29.07.99) |
| (21) International Application Number: PCT/US99/01789 | | (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). | |
| (22) International Filing Date: 27 January 1999 (27.01.99) | | Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> | |
| (30) Priority Data: 60/072,762 27 January 1998 (27.01.98) US | | | |
| (71) Applicant (for all designated States except US): COLLABORATION PROPERTIES, INC. [US/US]; Suite 7, 913 Tahoe Boulevard, Incline Village, NV 89451 (US). | | | |
| (72) Inventor; and (75) Inventor/Applicant (for US only): LUDWIG, Lester, F. [US/US]; 1239 Southdown, Hillsborough, CA 94010 (US). | | | |
| (74) Agents: OPPERMAN, Craig, P.; Cooley Godward L.L.P., 3000 El Camino Real, Five Palo Alto Square, Palo Alto, CA 94306-2155 (US) et al. | | | |

(54) Title: MULTIFUNCTION VIDEO COMMUNICATION SERVICE DEVICE



(57) Abstract

This invention relates to a multimedia device (100) for use in multimedia collaboration apparatus and systems. Such apparatus and systems typically contain processing units (118) audio reception and transmission capabilities (140, 142), as well as video reception and transmission capabilities (146, 142). The reception and transmission capabilities allow analog audio/video signal transfer over UTP wires for audio transmit/receive. The reception, transmission, and decoding capabilities could exist in a single packaging. This or another single packaging can support a plurality of multimedia network signal formats, including analog plus digital or all digital.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

| | | | | | | | |
|----|--------------------------|----|--|----|--|----|--------------------------|
| AL | Albania | ES | Spain | LS | Lesotho | SI | Slovenia |
| AM | Armenia | FI | Finland | LT | Lithuania | SK | Slovakia |
| AT | Austria | FR | France | LU | Luxembourg | SN | Senegal |
| AU | Australia | GA | Gabon | LV | Latvia | SZ | Swaziland |
| AZ | Azerbaijan | GB | United Kingdom | MC | Monaco | TD | Chad |
| BA | Bosnia and Herzegovina | GE | Georgia | MD | Republic of Moldova | TG | Togo |
| BB | Barbados | GH | Ghana | MG | Madagascar | TJ | Tajikistan |
| BE | Belgium | GN | Guinea | MK | The former Yugoslav Republic of Macedonia | TM | Turkmenistan |
| BF | Burkina Faso | GR | Greece | | | TR | Turkey |
| BG | Bulgaria | HU | Hungary | ML | Mali | TT | Trinidad and Tobago |
| BJ | Benin | IE | Ireland | MN | Mongolia | UA | Ukraine |
| BR | Brazil | IL | Israel | MR | Mauritania | UG | Uganda |
| BY | Belarus | IS | Iceland | MW | Malawi | US | United States of America |
| CA | Canada | IT | Italy | MX | Mexico | UZ | Uzbekistan |
| CF | Central African Republic | JP | Japan | NE | Niger | VN | Viet Nam |
| CG | Congo | KE | Kenya | NL | Netherlands | YU | Yugoslavia |
| CH | Switzerland | KG | Kyrgyzstan | NO | Norway | ZW | Zimbabwe |
| CI | Côte d'Ivoire | KP | Democratic People's Republic of Korea | NZ | New Zealand | | |
| CM | Cameroon | | Republic of Korea | PL | Poland | | |
| CN | China | KR | Republic of Korea | PT | Portugal | | |
| CU | Cuba | KZ | Kazakhstan | RO | Romania | | |
| CZ | Czech Republic | LC | Saint Lucia | RU | Russian Federation | | |
| DE | Germany | LI | Liechtenstein | SD | Sudan | | |
| DK | Denmark | LK | Sri Lanka | SE | Sweden | | |
| EE | Estonia | LR | Liberia | SG | Singapore | | |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/01789

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : H04N 7/14, G09G 3/36

US CL : 348/14, 345/104

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 178/18.09; 250/208.1; 257/59. 72; 345/3. 7, 104. 207; 348/14. 15, 16, 17, 18, 207; 349/116; 379/410; 381/17; 382/114

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | US 5,410,595 A (PARK et al.) 25 APRIL 1995, Fig. 5, col. 6 lines 55-68, col. 7 lines 1-68, col. 8 lines 1-68, col. 9 lines 1-40 | 1-5, 16, 19 |
| Y | US 5,555,310 A (MINAMI et al.) 10 SEPTEMBER 1996, fig. 15 col. 19 lines 38-64. | 1-5 |
| X | US 5,587,928 A (JONES et al.) 24 DECEMBER 1996, fig. 3, col. 2 lines 57-67, col. 3 lines 1-67, col. 4 lines 1-49, col. 5 lines 43-67, col. 6 lines 1-51. | 11 |
| --- | | ----- |
| Y | | 12-14 |
| Y | US 5,572,643 A (JUDSON) 05 NOVEMBER 1996, fig. 1 col. 6 lines 45-62. | 12-14 |



Further documents are listed in the continuation of Box C.



See patent family annex.

| | |
|---|--|
| * Special categories of cited documents. | *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| *A* document defining the general state of the art which is not considered to be of particular relevance | *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| *E* earlier document published on or after the international filing date | *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | *G* document member of the same patent family |
| *O* document referring to an oral disclosure, use, exhibition or other means | |
| *P* document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search

20 MAY 1999

Date of mailing of the international search report

01 JUN 1999

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

CURTIS KUNTZ

Telephone No. (703) 305-4708

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/01789

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------------|--|------------------------------------|
| X ----- Y | US 5,708,659 A (ROSTOKER et al.) 13 JANUARY 1998, figs. 1, 40-43, col. 4 lines 45-67, col. 5 lines 1-25, col. 6 lines 66-67col. 7 lines 1-67, col. 8 lines 1-60, col. 24 lines 31-67col. 25 lines 1-2. | 15, 17-18, 20-24 ----- 16,19 |
| X | US 3,958,235 A (DUFFY) 18 May 1976, abstract, figure 6, column 1, lines 40-68, column 2, lines 1-15. | 26, 33, 40, 43, 44, 45, 46, 47 |
| A | US 4,794,634 A (TORIHATA ET AL.) 27 December 1988, abstract, figure 1, column 1, lines 35-55. | 26 |
| X | US 5,313,055 A (SHIRATSUKI ET AL.) 17 May 1994, abstract, figure 7-30, colum 1 and 2. | 26, 33, 40, 43, 44, 45, 46, 47 |
| A | US 5,331,149 A (SPITZER ET AL.) 19 July 1994, abstract, figures 1, 3 and 4, column 1, lines 44-68, column 2, lines 1-30. | 26-49 |
| X | US 5,340,978 A (ROSTOKER ET AL.) 23 August 1994, abstract, figures 1 and 15, column 2, lines 11-68. | 26-49 |
| X | US 5,446,564 A (MAWATARI ET AL.) 29 August 1995, abstract, figures 1-3, column 1 & 2. | 26-49 |
| X,P | US 5,812,109 A (KAIFU ET AL.) 22 September 1998, abstract, figures 1-15, column 1 & 2. | 26-49 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/01789

I. Basis of the report**1. With regard to the elements of the international application: ***☒ the international application as originally filed☒ the description:pages 1-42pages NONEpages NONE, as originally filed
, filed with the demand
, filed with the letter of☒ the claims:pages 43-49pages NONEpages NONEpages NONE, as originally filed
, as amended (together with any statement) under Article 19
, filed with the demand
, filed with the letter of☒ the drawings:pages 1-25pages NONEpages NONE, as originally filed
, filed with the demand
, filed with the letter of☒ the sequence listing part of the description:pages NONEpages NONEpages NONE, as originally filed
, filed with the demand
, filed with the letter of**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.**4. ☒ The amendments have resulted in the cancellation of:**☒ the description, pages NONE☒ the claims, Nos. NONE☒ the drawings, sheets/fig NONE**5. ☒ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).****

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application.

☒ claims Nos. 6-10, 25

because:

☐ the said international application, or the said claim Nos. _ relate to the following subject matter which does not require international preliminary examination (*specify*).

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 6-10, 25 are so unclear that no meaningful opinion could be formed (*specify*).

☐ the claims, or said claims Nos. _ are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for said claims Nos. _.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

| | | | |
|-------------------------------|--------|--|-----|
| Novelty (N) | Claims | <u>(Please See supplemental sheet)</u> | YES |
| | Claims | <u>(Please See supplemental sheet)</u> | NO |
| Inventive Step (IS) | Claims | <u>(Please See supplemental sheet)</u> | YES |
| | Claims | <u>(Please See supplemental sheet)</u> | NO |
| Industrial Applicability (IA) | Claims | <u>(Please See supplemental sheet)</u> | YES |
| | Claims | <u>(Please See supplemental sheet)</u> | NO |

2. citations and explanations (Rule 70.7)

Claims 1-5 lack an inventive step under PCT Article 33(3) as being obvious over Park et al. (US PAT. 5,410,310, hereinafter Park) in view of Minami et al. (US PAT. 5,555,310, hereinafter Minami).

Regrading claims 1, 4, Park discloses apparatus and method for noise reduction for a full duplex speaker phone or the like comprising: at least one microphone 140 and configured to perform adaptive echo canceling operations on at least one channel of audio captured at the associated microphone, plurality of microphones (140-141, fig. 5), and including synthetic aperture microphone processing capabilities (fig. 5, col. 7 lines 1-68, col. 8 lines 1-68, col. 9 lines 1-40).

Park differs from the claimed invention by not teaching stereo echo canceling.

However, Minami discloses stereo voice transmission which teaches the use of stereo echo canceling (fig. 15, col. 19 lines 38-64).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Parks system to provide for stereo echo canceling as this would enable to enhance the system by providing stereo sound system, thus giving the user better sound quality.

Regarding claims 2, 5, Park further shows the following: the device (fig. 5) associated with a plurality of microphones (140,141) and further configured to have synthetic aperture microphone processing capabilities that include the capability to adjust the position of a spatial region corresponding to the area of maximum sensitivity of the synthetic aperture microphone function (fig. 5 col. 7 lines 66-67, col. 8 lines 1-68, col. 9 lines 1-27).

Regarding claim 3, Park shows the following: adaptive acoustic echo-canceling and synthetic microphone processing capabilities that are combined in a single packaging (see fig. 5).

He differs from the claimed invention by not showing (Continued on Supplemental Sheet.)

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

I. BASIS OF REPORT:

5. (Some) amendments are considered to go beyond the disclosure as filed:

NONE

V. 1. REASONED STATEMENTS:

The report as to Novelty was positive (YES) with respect to claims 1-5, 12-14, 16, 19, 40-46.

The report as to Novelty was negative (NO) with respect to claims 11, 15, 17-18, 20-24, 26-39, 47-49.

The report as to Inventive Step was positive (YES) with respect to claims NONE.

The report as to Inventive Step was negative (NO) with respect to claims 1-5, 11-24, 26-49.

The report as to Industrial Applicability was positive (YES) with respect to claims 1-5, 11-24, 26-49.

The report as to Industrial Applicability was negative (NO) with respect to claims NONE.

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

stereo echo canceling.

However, Minami discloses stereo voice transmission which teaches the use of stereo echo canceling (fig. 15, col. 19 lines 38-64).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Parks' system to provide for stereo echo canceling as this would enable to enhance the system by providing stereo sound system, thus giving the user better sound quality.

Claims 12-14 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al. (US PAT. 5,587,928, hereinafter Jones) in view of Judson (US PAT. 5,572,643).

Regarding claims 12-14, Jones shows the following: a single packaging including audio and video signal reception and transmission capabilities (fig. 2-3, a processing unit (not shown) and a memory residing in which is an operating system, the operating system is capable of rendering a graphical user interface, supporting user manipulation of any one of a cursor and pointing icon (figs. 2-3, col. 5 lines 43-67, col. 6 lines 1-51).

He differs from the claimed invention by not teaching internet browsing application software.

However, Judson discloses web browser with dynamic display of information objects linking which teaches about internet browsing application software (fig. 5, col. 6 lines 45-62).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Jones's system to provide for internet browsing application software as this would enable the user to access internet, thus providing access to an important information resource.

Claim 16 lacks an inventive step under PCT Article 33(3) as being obvious over Rostoker et al. (US PAT. 5,708,659, hereinafter Rostoker) in view of Park and Minami.

Regarding claim 16, Rostoker shows audio and video signal capture capabilities as shown in fig. 1.

He differs from the claimed invention by not showing adaptive stereo echo-canceling capabilities and synthetic aperture microphone processing capabilities.

However, Park teaches about adaptive echo canceling capabilities and synthetic aperture microphone capabilities (fig. 5 col. 8 lines 38-68, col. 9 lines 1-27), and Minami teaches about stereo echo canceling capabilities (fig. 15, col. 19 lines 38-64).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Rostoker's system to provide for the following: adaptive stereo echo-canceling capabilities and synthetic aperture microphone processing capabilities as this arrangement would enable the user to obtain clear sound quality.

Claim 19 lacks an inventive step under PCT Article 33(3) as being obvious over (Rostoker) in view of Judson.

Regarding claim 19, Rostoker does not show an application software that includes an internet browser.

However, Judson discloses web browser with dynamic display of information objects linking which teaches about an application software that includes an internet browser. (fig. 5, col. 6 lines 45-62).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Rostoker's system to provide for an application software that includes an internet browser as this would enable the user to

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 11

access internet, thus providing access to an important information resource.

Claim 11 lacks novelty under PCT Article 33(2) as being anticipated by Jones.

Regarding claim 11, Jones discloses computer teleconferencing method and apparatus comprising: a single packaging including capabilities for supporting analog and digital networks for either or both analog or digital audio and video networks (f igs. 2-3, col. 2 lines 57-67, col. 3 lines 1-67, col. 4 lines 1-49).

Claims 15, 17-18, 20-24 lack novelty under PCT Article 33(2) as being anticipated by Rostoker.

Regarding claim 15, Rostoker discloses method for hashing in a packet network switching system comprising: the device comprising: a single packaging including audio and video signal reception and transmission capabilities (fig. 1), a processing unit in 302, and multiport networking capabilities (figs. 1, 40-43, col. 4 lines 45-67, col. 5 lines 1-25, col. 8 lines 8-16, col. 24 lines 31-67, col. 25 lines 1-2).

Regarding claims 17-18, 20-24, Rostoker further shows the following: multiport networking capabilities include: data packet destination capabilities, a memory including an operating system and application software reside (col. 24 lines 31-67, col. 25 lines 1-2), capabilities for encoding and decoding audio and video signals (fig. 3), audio capture and reproduction capabilities (305, 308) (fig. 1), video capture and reproduction capabilities (303, 307) (fig. 1), a first port couples to a multimedia network configured to carry multimedia signals in multiple formats, a second port 311 for coupling to a plurality of computers, a network bus (fig. 40).

Claims 26-39 and 47-49 lack novelty under PCT Article 33(2) as being anticipated by Rostoker et al. (5,340,978).

In regards to claims 26, 32, 33, 34, 39 and 47 Rostoker et al. to summarize discloses a display device having image capture capabilities, image processing circuitry and comprising a plurality of display elements interleaved with a plurality of integrated photosensor elements in an essentially planar arrangement on a single substrate to create a conventional image signal (abstract, figures 1, figure 10, items 1001 and 1002, figure 15, items 1520 and 1510 and figures 16a-d), in regards to claim 27, each photosensor element occupies a smaller area than a display element (figure 15), in regards to claims 28 and 29, fabricated with geometries to reduce the nonluminent spacing and perceived areas between display elements or pixels (figure 1, col 2, lines 14-68), in regards to claims 30, 31, 37, 38, 47 and 48 a dedicated microoptic structure is associated with a set of photosensor elements (figure 2a), in regards to claims 35 and 36 portions of the display elements and photosensor elements are optically transparent (col 2, lines 14-68 and col 3, lines 1-10)

Claims 40-46 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Rostoker et al.. Since Rostoker was shown to clearly anticipate the apparatus claims 26-39 and 47-49 examiner contends the method claims 40-46 use to practice the apparatus would have been obvious to one of ordinary skill in the art at the time invention was made.

----- NEW CITATIONS -----

NONE